

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/019692

International filing date (day/month/year)
22.12.2004

Priority date (day/month/year)
26.12.2003

International Patent Classification (IPC) or both national classification and IPC
C07C255/10; C07C255/31, A01N37/34

Applicant
SUMITOMO CHEMICAL COMPANY, LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

10/584402

International application No.
PCT/JP2004/019692

IP20 Rec'd PCT/PTO 26 JUN 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/019692

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	1-13
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2004/019692

AP20 Rec'd PCT/PTO 26 JUN 2006

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: WO 02/090320 A (SUMITOMO CHEMICAL COMPANY, LIMITED; OTAKA, KEN;
OOHIRA, DAISUKE; OKADA) 14 November 2002
D2: US-A-4 000 314 (DRABEK ET AL) 28 December 1976

1. Novelty

The present application does meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 - 13 is new in the sense of Article 33(2) PCT.

The relevant prior art documents D1 and D2 do not disclose malonitrile derivatives falling within the scope of the general formula (I) as defined in claim 1 and dependent claims.

2. Inventive Step

The present application does also meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 to 13 does involve an inventive step in the sense of Article 33(3) PCT.

In view of the document D1, which discloses malonitrile derivatives with pesticidal activity and which is regarded as representing the closest prior art, the problem underlying the present application can be defined as providing further malonitrile derivatives with pesticidal activity. To solve this problem the Applicant provides the malonitrile derivatives according to the general formula (I) as defined in claim 1. These derivatives differ mainly from the compounds disclosed in D1 in that they have a $R-CH_2$ - residue with $R = C1-C4$ fluoroalkyl instead of an optionally substituted benzyl residue. There is no teaching or suggestion in the prior art from which the person skilled in the art could have derived that malonitrile derivatives having such an $R-CH_2$ residue instead of an optionally substituted benzyl residue would also show pesticidal activity. The provision of the compounds of the present application as further pesticides is therefore regarded as involving an inventive step.

3. Industrial Applicability

**WRITTEN OPINION OF THE
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AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2004/019692

The compounds claimed in the present application are useful as pesticides.